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# (12) United States Patent

Rao et al.

## (54) RECONFIGURABLE MOBILE DEVICE WITH KEYBOARD COVER AND DISPLAY AREAS OF CONTENT AND APPLICATIONS

(71) Applicant: IP Holdings, Inc., Palo Alto, CA (US)

(72) Inventors: Raman K. Rao, Palo Alto, CA (US); Sanjay K. Rao, Palo Alto, CA (US); Sunil K. Rao, Palo Alto, CA (US)

(73) Assignee: IP Holdings, Inc., Palo Alto, CA (US)

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#### Related U.S. Application Data

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See application file for complete search history.

(56) References Cited

#### U.S. PATENT DOCUMENTS

| 5,060,149 A * | 10/1991 | Flurry et al 700/84      |
|---------------|---------|--------------------------|
| 5,714,971 A * | 2/1998  | Shalit et al 715/804     |
| 5,847,698 A   | 12/1998 | Reavey et al.            |
| 6,046,730 A   | 4/2000  | Bowen et al.             |
| 6,535,749 B1  | 3/2003  | Iwata et al.             |
| 6,640,114 B2  | 10/2003 | Bae                      |
| 6,747,635 B2  | 6/2004  | Ossia                    |
| 7,054,441 B2  | 5/2006  | Pletikosa                |
| 7,194,086 B2  | 3/2007  | Pletikosa                |
| 7,345,872 B2  | 3/2008  | Wang                     |
| 8,144,204 B2  | 3/2012  | Strandwitz et al.        |
| 8,144,477 B2  | 3/2012  | Hamada                   |
| 8,224,405 B2* | 7/2012  | Lombardi et al 455/575.3 |
| 8,248,789 B2  | 8/2012  | Wu et al.                |
| (Continued)   |         |                          |

(Continued)

Primary Examiner — Minh D Dao

(74) Attorney, Agent, or Firm — Levine Bagade Han LLP

## (57) ABSTRACT

A multifunction cover with touch screen display, icons, and a keyboard is described. A multifunction touch screen enabled mobile device may be configured to be connected to the separate cover, which may be attached to the device and detached from the device. The mobile device may be enabled with a cellular voice and data communication, WiFi connectivity, Bluetooth connectivity, and Internet Protocol connectivity. The mobile device may be enabled to play videos, capture photos, and stream multimedia content.

## 24 Claims, 18 Drawing Sheets

